



## OAKVILLAGE 3A & B



Oakville Phase 3 located on a 1.05 hectare site is the first of two buildings to be located on the north east corner of Trafalgar Road and Dundas Street East. Phase 3A will be a 14 storey tower with 262 suites and will include outdoor amenities as well as a fitness centre. The tower will have residential units starting on the 2nd floor up to the 14th and will also include a series of townhouses located on the ground floor. Oakville Phase 3B designed to be a 22 storey tower and will include amenities such as fitness centre and indoor lounge on levels 1 and 13, resident units will be located from level 1 to 22 with a total of 363 suites in total.

Both building 3A and 3B were designed with a ground source heat pump system to heat and cool the building. The ground heat exchanger is located underneath the parking and the building. The heat exchanger field for building 3A is equipped with 84 vertical boreholes and each borehole is 600 feet deep. The heat exchanger field for building 3B is equipped with 77 vertical boreholes and each borehole is 850 feet deep. A gas fired domestic hot water boiler plant also inject heat into the heat pump loop if the loop temperature is too low. In addition, the ground source heat pump

**8** DISCIPLINES  
MECHANICAL  
ELECTRICAL  
PLUMBING  
LIGHTING DESIGN  
COMMUNICATIONS & AV  
SECURITY & RISK  
COMMISSIONING  
ENERGY SERVICES



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loop is also used to preheat domestic hot water when conditions are available in summer and shoulder seasons. Water to water heat pumps absorb heat from the ground loop and provide miscellaneous heating and snow melting to the building. Energy meter has been provided in the design to monitor the heat extracted and injected to the ground heat exchanger to ensure heat balance and preventing the warming up of the ground.

The Building 3A has an energy saving of 25.95%, the carbon emission reduction is 37.22% and peak electricity is 6.6% less than the reference. The Building 3B has an energy saving of 27.1% and the greenhouse gas reduction is 38.1%.

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**LOCATION** Oakville, Canada  
**CLIENT** Branthaven Homes  
**ARCHITECT** Kirkor Architects and Planners  
**PROCUREMENT TYPE** Design-Bid- Build  
**SIZE** 224,421 ft<sup>2</sup>  
**COMPLETION YEAR** 2022  
**MARKET SECTOR** Residential